

GEOGRAPHIC SCHOOL BULLETINS

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THE NATIONAL GEOGRAPHIC SOCIETY

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Contents for Week of October 25, 1943. Vol. XXII. No. 16.

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 2. La Venta Giant Head Comes to Washington
 3. Corsica: Mediterranean Hornets' Nest
 4. Unscrambling Sea Water Saves Lives, Makes Minerals
 5. Swiss Border Towns: Neutral Ears for Warring World
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B. Anthony Stewart and Richard H. Stewart

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HOW TEACHERS MAY OBTAIN THE BULLETINS

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Belated Burma: Pagodas, Parasols, and Peacocks Swept by War

OCTOBER brings a change of scene to Burma. The rainy monsoon season closes down, with a subsiding of the waters like that following the Bible's Deluge. Broad brown rivers begin to lose the extra 70 feet of depth the rains brought them. The sheet of water that silvered road beds and forest floors seeps away. Sodden green fields of reed-like rice plants, waist high, begin to dry out and turn harvest-gold. And Allied armies, facing Japan's westernmost forces in Burma, find that the monsoon rain-curtain has lifted on the theater of operations.

Rice and roads make Burma an inevitable battleground for Asia.

The country is one of the three rice-exporting nations in the whole hungry Orient. India and China ate from Burma's rice bowl before Japan stole it.

Mountains Raise Five Hurdles Between India and China

When Japanese invasion walled in China from the east and south, innocent bystander Burma held the shortest western route by which allies could send aid to fortify China's resistance. A dogged stream of traffic rolled over the Burma Road until the Japanese invaded in 1942.

Burma is severely handicapped by geography for the role of India-China link. The coast, for most of Burma's 1,200-mile length, is rugged and steep, except along the marshy Irrawaddy delta. In the 500 air miles of its width, traffic must hurdle five main mountain chains that make parallel barriers stretching north and south. In the north, mountain ramparts reach 19,000 feet above sea level. Yet in that lofty wilderness, where Tibet and Burma touch, secret airfields and mountain trails are passing the ammunition from India to China.

Dominant feature of Burma is the Irrawaddy, "Elephant River," one of Asia's most remarkable streams. This is the river-road to Mandalay whose paddle-chunking steamboats and flying fishes Kipling described. To travelers this was Burma's Route 1, crowded with steamers, teak rafts, and oil barges. It was navigable for 900 miles from Rangoon, near the mouth, to Bhamo.

"Elephant River" Is Burma's Nile

To farmers the Irrawaddy is Burma's Nile. Its annual floods endow valley rice fields with rich mud. Three-fourths of the country's rice acreage is in this basin. The valley's harvest once made Rangoon the world's chief rice-shipping port. Like the Nile, "Elephant River" has a huge delta and nine mouths.

To geographers the Irrawaddy is one of the continent's speediest erosion agents. It scours soil from mountains and deposits it on the delta. It strips its upper basin of a layer of earth a foot thick every 400 years. Hard rains and soft rocks explain the speed.

The Salween, to the east, flows from Tibet through a gigantic valley trench that is one of Asia's wildest canyons. Its sides rise cliff-like for three to four thousand feet. Tributaries tumble in as cataracts.

Burma, with 260,000 square miles, is 98 per cent as large as Texas, but there are more than twice as many Burmans as Texans.

Burma was separated from India in 1937. The capital was delta-side Rangoon, with a hot-weather shift to Maymyo (illustration, inside cover). Burma proper had a legislature, part elected, part appointed. Mountain districts remained

Bulletin No. 1, October 25, 1943 (over).



Frank Outram

HSUM HSAI'S CASCADES AT MAYMYO'S OLE SWIMMIN' HOLE COULD MAKE A SHOWER BATH FOR SUPERMAN

Maymyo, in northeast Burma, 43 miles northeast of Mandalay, stands on an airy plateau 3,500 feet high, above the steamy Irrawaddy valley. British officials made the town their summer capital, migrating to the highlands to escape the stifling heat. A favorite pastime was swimming at Hsum Hsai, where cool waterfalls splash into a series of natural rock basins. The monsoon rains, however, turn the cascades into torrents and the pools into maelstroms. Maymyo is a station on the railway to Lashio, railhead from which trucks set out for China over the Burma Road before Japanese invasion (Bulletin No. 1).

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La Venta Giant Head Comes to Washington

A VOICELESS messenger from earlier Americans has arrived in Washington from Mexico. It is a plaster replica of one of the five colossal stone heads whose faces watched the La Venta religious center about 1,300 years ago.

This quintet of bodiless, neckless heads may be ranked among the most spectacular finds of the three archeological expeditions sent to the La Venta site jointly by the National Geographic Society and the Smithsonian Institution, under the leadership of Dr. Matthew W. Stirling. If Mexico may be considered America's Egypt, the giant heads might be called America's Sphinxes.

Conquerors Wrecked La Venta 1,100 Years Ago

La Venta was in its prime probably between 500 and 800 A.D. This American Mecca stood on an island in the coastal mangrove swamps of Mexico's State of Tabasco. Its outstanding feature was a spacious green plaza dominated by a mound (now 105 feet high) where religious rites were performed. Around the plaza stood smaller mounds, handsomely carved stelae, altars, tombs, and the giant heads.

This holy city in the jungle, with its massive and awe-inspiring monuments, attracted pilgrims in large numbers to La Venta. It became the burial place of distinguished individuals. It attracted the best artists of the time. The work of these Stone Age craftsmen gives clues to the kind of life La Venta people led.

They were farmers for the most part. They considered the jaguar sacred. They used stone tools. They wore high-backed sandals and earplugs, and had magnifying mirrors. They valued jade above gold and silver. They buried their dead with respect and hope. They probably resembled the stone heads in having thick lips, flat noses, and round heads.

The La Venta people were apparently driven from home by warlike conquerors about 800 A.D. Monuments, including the stone heads, were mutilated.

Jaguar's Teeth and Ear Flaps Adorn the Head

What role the big stone quintuplets played in La Venta's life is still a mystery. Traces of red paint suggest that they were impressively colored objects of art.

Another mystery is how they got to La Venta. They are carved of solid chunks of basalt, a stone not found within 100 miles of their present site.

The head represented in Washington is "head man" for resurrected La Venta in several ways. It was this giant sculpture that beckoned scientists to rescue the ghost town abandoned to the jungle for so long. The top of the buried head protruded from the earth and attracted the expeditions to the spot.

When unburied, this ancient giant proved to be a not-quite-round head cut off sharply at the chin (illustration, cover). His pouting thick lips protrude an inch or two farther than his broad, flat nose. He wears an ornamental headband which dangles three jaguar's teeth on his forehead. Ear flaps from the headband partially obscure his finely carved question-mark ears. His realistic eyes stare straight ahead through round irises. The top of his head is gashed with marks which were probably made by careless successors to the La Venta people, who used his basalt poll for sharpening their stone implements. A jaguar tooth knocked out of his headdress and a cavity gouged from the back of his neck are no doubt the work of La Venta's conquerors, determined to mutilate the carvings.

Bulletin No. 2, October 25, 1943 (over).

partially under the feudal rule of their chieftains, or Sawbwas, whom British commissioners advised about punishments for head-hunting, human sacrifice, and slave-dealing.

Rice and Rubies for Old Burma; Oil and Tungsten Steel for New

The Burmans, predominantly Mongolian and Buddhist, resemble their Chinese neighbors to the east more than the Indians whose government they shared for almost a century. The level of literacy is higher in Burma than in India. In

peacetime about one-twentieth of the population goes to school.

Burmans are heirs to a civilization whose capital at Pagan surpassed Paris in size and splendor about 900 A.D. Remnants of Pagan's 5,000 pagodas still stand. The paper parasol, or often a drab black umbrella, is still Burma's symbol of dignity.

While occasionally they feast on curried peacock, the Burmans live mainly on rice, raised by about 80 to 90 per cent of them.

A few follow the ancient vocation of ruby mining. From well-like shafts they scoop baskets of gravel which they wash for the red jewels. At Mogok a purchaser may spend a fortune for rubies weighed out for him at a market stall between vegetable vendors.

Burmese treasures most esteemed by industrial nations today are petroleum—the largest supply in British territory in the Old World; wolfram ore from which tungsten is extracted for hardening steel, especially important for war purposes; and tin from southern mines.

NOTE: Burma is shown on the National Geographic Society's Map of Asia and Adjacent Areas.

See also these articles in the *National Geographic Magazine*: "Burma: Where India and China Meet," October, 1943; and "Burma Road, Back Door to China," November, 1940*.



Sir George Scott

PADAUNGS LIKE "SPRING" AT NECK AND KNEE

American rubbernecks and Padaung brassnecks got together recently when a group of these giraffe-necked women toured the United States as a sideshow attraction. "Spring" styles are year-round wear for women of the Padaung tribe, who deck their knees and necks in ornamental brass coils resembling tight bedsprings. The coiled brass collar is padded on the inside and chinside for shock-absorbing reasons. Often a woman will wear a collar that actually stretches her neck to swan-like length. Beneath her knee-springs the matron on the right wears cotton leggings as a protection against blood-sucking leeches. The home of the Padaungs, a tribe of the Karen group, is in the hilly Karenni stretch near Burma's Thailand frontier.

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Corsica: Mediterranean Hornets' Nest

BEAUTIFUL sweet-scented French Mediterranean isle of Napoleon's birth—that much about Corsica the reading public knew before the French recaptured it this month with the assistance of some American Rangers.

In the weeks that have followed, amateur strategists have discussed the island as a base for attacks on southern Europe.

There it lies, a short step (seven or eight miles) north of Sardinia. Its length, 112 miles, matches its distance from the coast of southern France. Its width, 52 miles, equals its distance from Italy. Its outline suggests the hornets' nest it could be, beneath the "soft underbelly" of the Axis. Fighter planes could dart out to sting Nazi forces in Genoa, La Spezia, and Leghorn in an hour's flight. Two-hour sallies could reach Nazi-held Marseille and Axis arsenals in Turin and Milan.

French for 175 Years

Except for brief spells of British occupation, Corsica had been French since 1768, until Italian armies invaded last November.

Corsica's 3,367 square miles make the island two-thirds the size of Connecticut. Forested mountains culminating in two 8,600-foot peaks leave little flat land on the island. They reach to the Mediterranean in the west, but on part of the Tyrrhenian Sea coast in the east they are fronted by marshy, malarial plains.

Seen from the air, Corsica is notable for the black sea growth that edges dazzling white sands, and the ribbon-like roads that spiral from sheltered bays into the snow-covered ranges. The island is memorable for the sweet scent of the tanglefoot *maquis* shrubs, wafted many miles from shore.

Ajaccio, Cradle of Bonapartes

Corsica's mountainous interior is its vendettaland, home of its Hatfields and McCoys, whose ancient feuds were first nurtured on poverty imposed by foreign tyrants. In late years vendettas have figured more largely in fiction than in fact. Mountain men were numerous among the 40,000 Corsicans who died for France in World War I. The island's population now numbers about 325,000.

Bonifacio, at the southern tip of the hornets' nest, is plainly visible from Sardinia across the eight-mile Strait of Bonifacio. From Bonifacio, the rugged southeast coast leads to Porto Vecchio, Corsica's finest natural harbor, an outlet for cork from the island's cork-oak forests. Forty miles northeast of Bonifacio the lagoon-bordered Plain of Aleria begins.

Bastia, with 37,000 people, is Corsica's leading trade center by reason of its double-harbored port and its exports of fruit, olive oil, lumber, wine, and fish. Named for the bastions built by its Genoese governor in 1380, Bastia was capital for three centuries. Napoleon shifted the capital at his mother's request to Ajaccio, west coast town of his birth (illustration, next page).

On the west coast, deep gulfs and rocky headlands are the rule. The Gulf of Valinco in the south is dominated by a cork-and-charcoal port, Propriano. To the north lie five more gulfs, each with a port town bearing the gulf name—Ajaccio, Sagone, Porto, Calvi, St. Florent.

Scenic and Napoleonic background once made Ajaccio Corsica's tourist terminus for the popular 205-mile voyage from Marseille. From Ajaccio the island's only railroad, a narrow-gauge line, winds away to the east coast. Good highways

The weight of the original head is estimated at 20 tons. It stands 8 feet 1 inch high. Its circumference around the headband is 20 feet 7 inches.

After this pioneer head came to light, the La Venta expeditions uncovered an even larger one. The giant-in-chief wore earplugs decorated with a cross, a decorative headdress, and showed four upper teeth in a pleasant expression. A third head, smaller, wore an engaging smile. The fourth and fifth heads were smaller, flattened at the back, but with the typical broad noses and thick lips.

Scientists of the University of Mexico made the plaster cast in the jungle. Then the carved giants were entombed again. The cast, in three sections and weighing more than a ton, was shipped to Washington and set up in Explorers Hall in the administration building of the National Geographic Society, where it will be on exhibition for members of the Society and other visitors.

NOTE: For further information on archeological discoveries in Mexico, see the following articles in the *National Geographic Magazine*: "La Venta's Green Stone Tigers," September, 1943; "Finding Jewels of Jade in a Mexican Swamp," November, 1942; and "Great Stone Faces of the Mexican Jungle," November, 1940*; and in the *GEOGRAPHIC SCHOOL BULLETINS*: "La Venta an Ancient Mexican Mecca," October 4, 1943.

Bulletin No. 2, October 25, 1943.



Richard H. Stewart

THE STONE HEADS LOOKED LIKE STANDING GIANTS BURIED TO THEIR CHINS

The great stone faces of La Venta revealed themselves at first only as round-topped boulders in the jungle. Excavation showed them to be colossal spheres of stone, too large to be moved. The photograph shows two of a row of three. The largest of the heads (background) was eight and a half feet high, 22 feet around. Its chin had been knocked off, but the four visible upper teeth were intact. Somewhat smaller, the head in the foreground wore a pleasant smile. Its weathered headgear has ear flaps. The giant head now represented at the Society's Washington headquarters was found about three-quarters of a mile from this group.

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Unscrambling Sea Water Saves Lives, Makes Minerals

HOW to "unscramble" the bitter salt water of the ocean and get drinkable fresh water has hitherto been one of the best-kept secrets of the sea. But the mystery has been solved at last, in an effort to save the thousands of mariners and flyers whom war's emergencies set adrift at sea, many to die of thirst.

A kit for treating the sea water and removing the chemicals that make it unfit to drink has been developed by scientists of the U. S. Navy and other agencies. It will be placed in ships' lifeboats and in the rubber life rafts carried by overseas airplanes. This will save many a fighting man from the Ancient Mariner's maddening plight of "Water, water everywhere, Nor any drop to drink."

Sea Is Catchall for Earth's Elements

From the point of view of a thirsty man, sea water is just drinking water plus an assortment of bitter-tasting and poisonous chemicals. To the scientist, it is a sort of "world soup," leached and stewed from the bony framework of the earth through untold geologic ages.

Almost every conceivable substance has been washed by rains and rivers into the sea. Some are in solution there now in tremendously greater strength than others. Of the 92 elements that make up the earth and everything in it, 49 have been found in sea water. They include gold, neon, argon, helium, hydrogen, and oxygen. It is likely that traces of many of the other 43 are there, too.

The ease with which materials dissolve is a key to the peculiar flavors found in the sea's "world soup." Silicon (chief ingredient in sand), aluminum, and iron are the three most abundant solid elements in the earth's crust; but because they are so hard to dissolve, sea water is practically free of them.

Some Seas, Some Seasons, Saltier Than Others

Salt is the predominant seasoning of the seas because it is one of the earth's easiest substances for water to dissolve. Sodium chloride, or common table salt, is seven times as abundant in sea water as its nearest rival, magnesium chloride, another easy-to-dissolve salt. All in all, in 1,000 parts of sea water about 35 parts are dissolved solids of the type called salts.

Actually, the North Atlantic appears to be a little more salty and the North Pacific a little less. Moreover, the North Atlantic gets even saltier in the spring, but thins out as fall arrives. The variations from ocean to ocean and from season to season are accounted for by different conditions of evaporation. Increased evaporation tends to make the remaining water saltier. Rain and the melting of snow and ice dilute the sea water and decrease its saltiness.

Sea Salt, Dried, Would Blanket Land

The sum total of the salts in the seas is so great that if they were dried out and spread on the earth's present dry land surface, it is estimated they would cover it more than 150 feet deep.

Making sea water drinkable turns out to be much less of a problem than getting all of the dissolved materials out of it. It is a matter of removing only the most abundant salts and other substances irritating or poisonous to man's insides. Many chemicals may be present in normal drinking water.

The great reservoir of chemicals and metals stored in sea water has remained

reach all parts of the island.

Timber and granite are peacetime exports from the Gulf of Porto. Inland from the near-by town of Piana is the famous Calanche, where red granite formations create acres of fantastic shapes. At Calvi, Lord Nelson lost his right eye, and a plaque proclaims that the town is one of those claiming to be the birthplace of Christopher Columbus. L'Ile Rousse is important as the center of Corsica's market garden region. Citrons have long been the distinctive export. With Ajaccio and Bonifacio, L'Ile Rousse was one of the trio of French naval stations on Corsica.

West of St. Florent, the Desert of Agriates is Corsica's wild-life preserve and sportsman's paradise. South and east toward Bastia are stands of chestnut trees, yielding timber for exports and nut flour for food.

After the Carthaginians, in succession the Romans, Vandals, Goths, Lombards, Moslems from Africa, and Moors from Spain fought for their turns to rule and ravage. Church and commercial domination from Pisa and Genoa later imposed taxes that bred revolutions, vendettas, and piracy. In 1729 the people rebelled under self-made King Theodore.

In 1768 Genoa yielded its claim on Corsica to France. Patriot Paoli's revolution in 1789 enlisted British aid, and Corsica was British-held from 1794 to 1796. Napoleon then regained it for France. Again on Britain's hands briefly in 1814, Corsica was returned to French rule in 1815. Italians occupied it late in 1942.

NOTE: Corsica may be located on the National Geographic Society's Map of Central Europe and the Mediterranean.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, December 7, 1942: "Corsica, Napoleon's Home, Has New Dictator."

Bulletin No. 3, October 25, 1943.



Maynard Owen Williams

AJACCIO CHILDREN VIEW CORSICA'S HISTORY AND GEOGRAPHY AT RECESS

From the old sea wall beside their school, the children can see the mountain outlines of the Gulf of Ajaccio, on whose shores their home town stands. The sea wall itself, with its stubby towers, is a reminder of Ajaccio's history. Italian colonists from Genoa founded the town in 1492—the year when another Genoese unveiled remoter lands for colonization. France acquired Corsica from Genoa in 1768, just in time to make a Frenchman of Napoleon, born in this city the following year. Ajaccio has made a business of the fame of the Bonapartes—boulevard, street, central square, quay, hotels, cafes, movie theaters, cigarettes, and other merchandise were given the name of the Little Corporal and other members of his family.

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Swiss Border Towns: Neutral Ears for Warring World

NEUTRAL Switzerland, newsman's observation gallery for events in Italy next door, has kept the world supplied with reports of developments in northern Italy.

Popping up as sources of Italian news stories, several previously obscure Swiss border towns have in recent months become prominent as listening posts and news transmitters. Most of them are border stations on international railway lines.

Chiasso at Tunnel Keyhole to Italy's North Door

Chief among these towns is Chiasso, situated at Switzerland's southernmost point only 32 miles north of Milan, northern Italy's chief city. Chiasso lies in a border region of mountain-walled lakes, surrounded by resorts. Hitherto it has been important only as a customs station on the St. Gotthard line.

The railway at Chiasso enters a tunnel a mile and a quarter in length and emerges in Italy. On the Italian side the next stop is Como, three miles southeast of Chiasso, on the peacetime resort lake of the same name (illustration, next page). Fighting on Lake Como's shores has been listed among the news events reported from Switzerland.

Chiasso had a small but steady prewar trade in wines and tobaccos. Its population is about 6,000.

Sixteen railway miles north of Chiasso and across Lake Lugano is the resort center of Lugano, which sent out numerous reports of happenings in Italy after the Badoglio government was established. Along with Lugano Paradiso, it has a population of 18,000. Mountain and lake excursions in all directions from Lugano were popular with Italians before the war.

Bellinzona Dominates Alpine Pass Entrances

Bellinzona is capital of the Ticino Canton of Switzerland, in which Chiasso and Lugano also are situated. This town has reported such incidents as the landing of two Italian warplanes and the internment of their crews. Bellinzona, a town of 11,000, has a strong military position dominating the entrances to the St. Gotthard and San Bernardino passes—two gateways on Swiss routes between northern Italy and southern Germany. Ticino, the Italian-speaking Canton, has been a member of the Swiss Confederation since 1512.

Brig is the station at the Swiss end of the Simplon Tunnel, a vital link in the railway from Milan to Bern, Swiss capital. Domodossola, first important town at the Italian end of the tunnel to the west, has been reported in German hands.

News may also originate in Locarno, on the railroad from Domodossola to Bellinzona; and, 70 airline miles east, in Brusio, border town near St. Moritz on the circuitous line between Milan and the Lake Constance region of north Switzerland. These lines, however, are of secondary importance compared with the St. Gotthard and Simplon routes.

NOTE: Switzerland is shown on the National Geographic Society's Map of Central Europe and the Mediterranean.

For additional material on Switzerland, see "Swiss Cherish their Ancient Liberties," April, 1941*; "Lake Geneva: Cradle of Conferences," December, 1937; and "August First in Gruyères," August, 1936*, in the *National Geographic Magazine*.

See also "Switzerland Guards Peace Island Surrounded by War," in the *GEOGRAPHIC SCHOOL BULLETINS*, December 11, 1939.

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practically untapped by man until recent years. The one exception is salt to season food, which has been evaporated from sea water since remote times.

For little more than a century, iodine has been taken from the oceans indirectly by burning seaweed which had absorbed the chemical.

Within the last decade science has found ways to dip more deeply into the sea's store of dissolved treasures. First, in 1934, came the development of a huge plant on a North Carolina beach to extract bromine from sea water. Although there are only 65 parts of bromine in a million parts of sea water, the process has been successful. Thousands of tons of bromine are extracted each year. Most of it is used in making anti-knock gasoline, now needed for airplanes.

Science Magic Pulls Shining Metal from Sea Water

Most spectacular operation in "sea-mining" is producing solid, shiny magnesium metal from sea water. War has greatly increased the demand for magnesium for airplane construction, because this is one of the lightest of metals. A magnesium extracting plant was set up on the shores of the Gulf of Mexico at Freeport, Texas. Approximately each 300 gallons of sea water pumped through gives up magnesium salts from which a pound of the metal is produced. Hundreds of millions of pounds of magnesium have already been taken from the sea by this one plant.

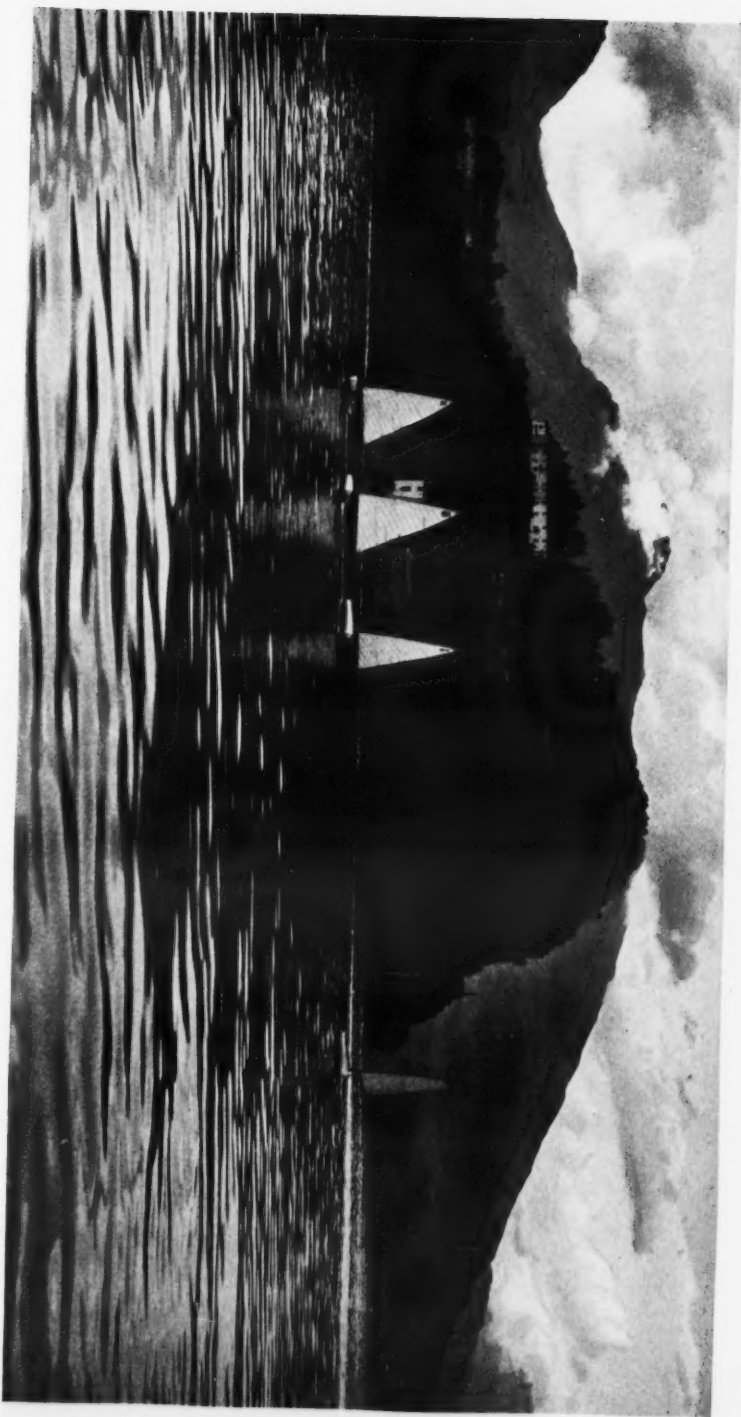
Bulletin No. 4, October 25, 1943.



Herford Tynes Cowling

RELUCTANT CAMELS HELP RECLAIM THE SALT OF THE EARTH FROM THE SEA

Aden, British colony on the Gulf of Aden at the southern end of the Red Sea, overlooks that sea's outlet into the Indian Ocean. This gives Aden an advantage in the business of recapturing sea salt. The Red Sea, with its scant rainfall and high evaporation, is unusually salty (about 40 parts of salt to 1,000 parts of water). Because of weather conditions, from June to September the surface currents flow out of the Red Sea into the larger and less salty Indian Ocean. Aden's salt industry has a system of canals and windmills, faintly reminiscent of the Netherlands. Windmills pump water from the sea into the canals and on into shallow evaporating pools. As the water evaporates beneath the sizzling sun, it leaves a deposit of salt. The process is repeated until the layer of salt is deep enough to scoop up and ship away. A camel-power train, drawn by a single disdainful camel, carries the salt to port for shipment. Basically the same ancient process is used to extract sea salt all over the world, from Sicily to San Diego.



WARTIME PRESS GALLERY NOW WATCHES PEACETIME PLAYGROUND

Metville Bell Grosvenor

Lake Como, once a favorite playground of the lake region of Italy and Switzerland, winds its spidery way among the western foothills of the Bergamo Alps, paralleling the border for some 30 miles. From the crest of the mountains (background) neutral Switzerland can look down on Italy's warring north. On the cedar-crowned cliff above the dinghies perches the rambling white Villa Serbelloni. The rocky promontory (right center) separates Lake Como from its south-east arm, Lake Lecco. To the north is Lake Como's deepest spot—1,345 feet—and greatest width—two and three-quarter miles. The irregular, curving shores of the lake somewhat resemble the banks of a winding river, their slopes covered with the contrasting dark greens of vineyards and chestnut trees and the gray-green of olive groves. Industries of the region are silk, weaving and olive-wood carving.

